<u>IN THE DRAWINGS</u>:

Please amend Figure 8 as per the attached "Replacement Sheet".

REMARKS

In response to the final Official Action of December 1, 2006, minor correction has been made in the specification at page 6 and in Figure 8, claims 1 and 17 have been amended, and claims 14 and 19 have been canceled. The correction to the specification at page 6 is simply to reference Figure 7 rather than Figure 6 since Figure 7 corresponds to the description set forth at page 6, lines 14-18. No new matter is presented.

Furthermore, Figure 8 has been amended to include a reference to reference element 17, which reference element is discussed at page 7, lines 11-13, but which is not shown in the referenced Figure 8. No new matter is presented in this amendment to Figure 8.

Referring now to page 2 of the Official Action, it is noted that the claim objections made in the Official Action mailed on May 22, 2006 are withdrawn in response to the amendment filed on August 21, 2006.

It is further noted that claims 1-7 and 16-20 are rejected under 35 USC §103(a) as being unpatentable in view of US patent 6,422,766, Althaus et al (hereinafter Althaus), further in view of US patent 5,065,226, Kluitmans et al (hereinafter Kluitmans), and US patent 6,222,967, Amano et al (hereinafter Amano), for reasons substantially similar to those presented in the Official Action of May 22, 2006.[1]

Initial Comment

In the section entitled "Response to Arguments", the Office asserts that the combination of injection moulding disclosed in Figure 18b of Amano would make clear to one of ordinary skill in the art to use this process to form an integral recess of the same material as the claimed substrate that houses the optical components. In Amano, Figures

[1] Although claims 1-7 and 16-20 are rejected at page 2, lines 14-16, in actuality claims 10-14 are also specifically referenced as rejected by the cited art and are so considered in this response.

18a-18c are described at column 7, lines 4-7 as being views for illustrating the reason why the use of solder bumps in fixing the optical component onto the packaging platform makes it possible to omit a holding step which is otherwise performed until the solder is cured. Furthermore, the reference to Figures 18a and 18c at column 29, line 59 through column 30, line 24, does not reference any aspect of Figure 18b representing an injection moulding, but rather the description is primarily directed to describing that when the solder is melted, the surface tension causes optical component (31) to be automatically pressed in the downward, rightward direction on the sheet face of the drawing as shown in Figures 18b and 18c (see in particular column 30, lines 11-13). Consequently, the arguments for lack of motivation as presented in applicant's amendment filed on August 21, 2006 are still believed to be applicable in contravention to the combination of references as currently asserted with respect to claims 1-7 and 16-20.

Claims as Amended

Claim 1 has been amended to incorporate the features of claim 14 so as to positively recite an opto-electrical transducer and associated glass fiber and a common support. Claim 1 has also been amended to recite that the impedance-matched conductors are respectively designed as coaxial lines with an internal conductor that is connected in a reflection-free manner to the impedance-matched conducting tracks and with feedthrough contacts that are arranged concentrically around the internal conductor and have clearance with respect to each other, which are interconnected to conduct electricity at least at one point, and are connected to ground. This arrangement of the impedance-matched conductors is shown in the application as originally filed, including Figures 5 and 6 and is described in the specification as filed, including page 5, line 36 through page 6, line 12.

The advantage of having feedthrough contacts arranged around the internal conductor is that this arrangement gives rise to what is known as a Faraday cage which

provides an effective electrical shield with respect to the internal conductor and the corresponding conducting track, thereby making additional metalization unnecessary (see Attachment A definition of Faraday cage from Wikipedia.org).

In the final Official Action with respect to claim 14, Kluitmans is relied upon with respect to a coaxial transmission line, citing column 9, lines 35-39; while in the previous Official Action of June 14, 2005 at paragraph 6 thereof, Kluitmans is relied upon as teaching a method of avoiding the reflection phenomenon in a coaxial transmission line by suitably selecting the ratio between the inside diameter of the outer guide and the outer diameter of the inner guide, with a dielectric constant of the medium between the guides, citing column 9, lines 27-36. A review of these pertinent portions of Kluitmans, including Figure 7 thereof, shows that Kluitmans only discloses one feedthrough that houses the pin (9) as specifically disclosed at column 9, lines 51-55. It is there seen that pin (9) forms the inner guide of the coaxial transmission line whose outer guide is formed by a block of conductive material (CBL) in which a circular cylindrical feedthrough is provided to house the pin (9). However, the coaxial lines set forth in amended claim 1 and as shown in Figure 5 of the present application, comprise an internal conductor (14) and a plurality of feedthrough contacts (15) arranged concentrically around the internal conductor and connected to ground. Such an arrangement is neither disclosed nor suggested by Kluitmans nor the other cited references. This claimed feature of the present invention therefore further distinguished the present invention as set forth in amended claim 1 over the cited art.

Similar amendment has been made to independent device claim 17 and, for similar reasons, it is respectfully submitted that claim 17 is not suggested by Althaus in view of Kluitmans further in view of Amano. Since each of the independent claims are believed to be distinguished over the cited art, it is respectfully submitted that claims 2-7, 10-13 and 16, which all ultimately depend from amended claim 1, and claims 18 and 20, which depend from claim 17, are further distinguished over the cited art.

Claims 14 and 19 have been canceled due to their incorporation respectively into amended claims 1 and 17.

For all of the foregoing reasons, it is respectfully submitted that the present application as amended is in condition for allowance and such action is earnestly solicited.

Respectfully submitted,

Dated: March 1, 2006

Alfred A. Fressola
Attorney for Applicant
Registration No. 27,550

WARE, FRESSOLA, VAN DER SLUYS
& ADOLPHSON LLP
Bradford Green, Building Five
755 Main Street, P.O. Box 224
Monroe, CT 06468
Telephone: (203) 261-1234
Facsimile: (203) 261-5676
USPTO Customer No. 004955

ANNOTATED

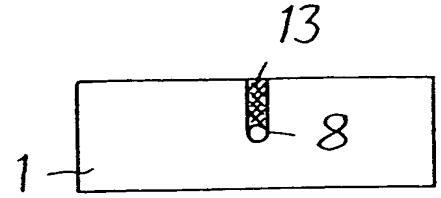


Fig. 4

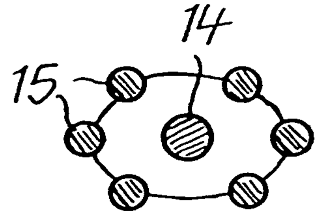


Fig. 5

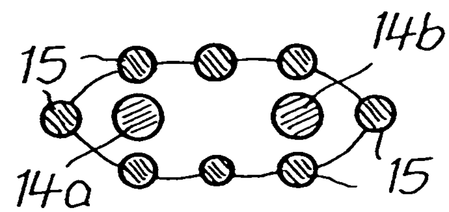


Fig. 6

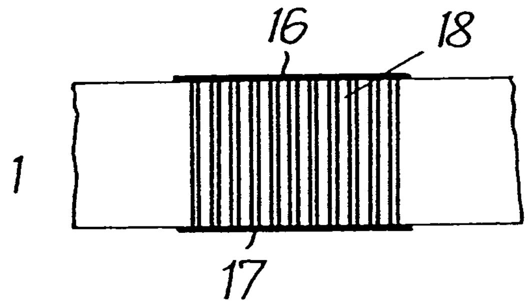


Fig. 7

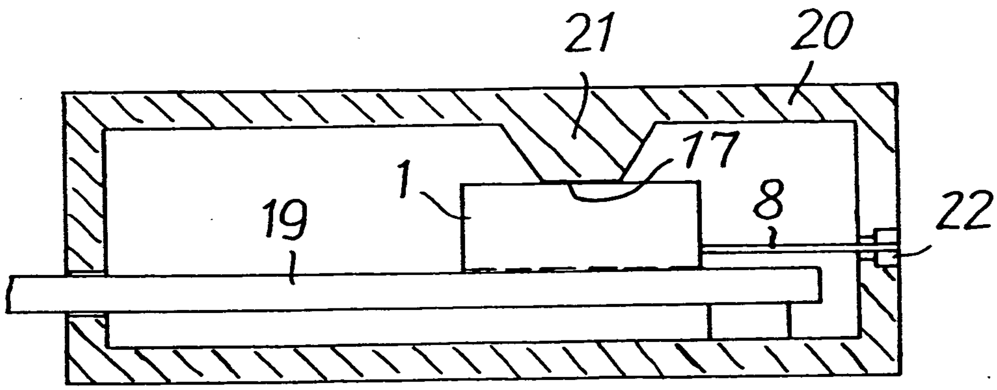
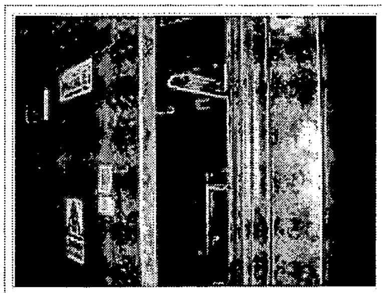


Fig. 8

Faraday cage

From Wikipedia, the free encyclopedia


Entrance to a Faraday room

A **Faraday cage** or **Faraday shield** is an enclosure formed by conducting material, or by a mesh of such material. Such an enclosure blocks out external static electrical fields. Faraday cages are named after physicist Michael Faraday, who built one in 1836 and explained its operation.

The electrical charges in the enclosing conductor repel each other and will therefore always reside on the outside surface of the cage. Any external static electrical field will cause the charges to rearrange so as to completely cancel the field's effects in the cage's interior. This effect is used for example to protect electronic equipment from lightning strikes and other electrostatic discharges.

To a large degree, Faraday cages also shield the interior from external electromagnetic radiation if the conductor is thick enough and its meshes, if present, are significantly smaller than the radiation's wavelength. This application of Faraday cages is explained under electromagnetic shielding.

Contents

- 1 History
- 2 How a Faraday cage works
- 3 Real-world Faraday cages
- 4 See also
- 5 External links

History

In 1836 Faraday observed that the charge on a charged conductor resided only on its exterior and had no influence on anything enclosed within it. To demonstrate this fact he built a room coated with metal foil and allowed high-voltage discharges from an electrostatic generator to strike the outside of the room. He used an electroscope to show that there was no electric charge present on the inside of the room's walls.

The same effect was predicted earlier by Francesco Beccaria (1716–1781) at the University of Turin, a student of Benjamin Franklin, who stated that "all electricity goes up to the free surface of the bodies without diffusing in their interior substance." Later, the Belgian physicist Louis Melsens (1814–1886) applied the principle to lightning conductors. Another researcher of this concept was Gauss (Gaussian surfaces).